



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/697,498

10/30/2003

Alan Michael Lyons

20-5

7695

7590

11/08/2005

Lucent Technologies Inc.  
Docket Administrator (Room 3J-219)  
101 Crawfords Corner Road  
Holmdel, NJ 07733-3030

EXAMINER

AL NAZER, LEITH A

ART UNIT

PAPER NUMBER

2821

DATE MAILED: 11/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/697,498

**Applicant(s)**

LYONS ET AL.

**Examiner**

Leith A. Al-Nazer

**Art Unit**

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 June 2004 and 06 September 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the inner surface must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-5 and 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites "a plurality of support structures connecting through portions of said inner surface and supporting and connecting the said inner surface and outer surfaces". This phrase is vague and indefinite, and therefore, Examiner is unsure what structure Applicant is attempting to claim. Specifically, the phrase "connecting through" is vague and indefinite.

Claims 4 and 5 recite "said at least a first antenna element". There is a lack of antecedent basis for this limitation in the claim.

Claim 15 recites "a plurality of structures connecting through portions of said inner surface and supporting and connecting said inner surface and said outer surface". This phrase is vague and indefinite, and therefore, Examiner is unsure what structure Applicant is attempting to claim. Specifically, the phrase "connecting through" is vague and indefinite.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 3, and 5 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,856,297 to Durham et al.

With respect to claim 1, Durham teaches an apparatus comprising: an inflatable body (306) having an inner surface and an outer surface (figure 10); at least one antenna element (40) disposed on the outer surface (figure 10); and a plurality of support structures (312) connecting through portions of the inner surface and supporting and connecting the inner and outer surfaces (figure 10).

With respect to claim 3, Durham teaches the plurality of support structures comprising a plurality of tubes (312).

With respect to claim 5, Durham teaches the at least a first antenna element being one antenna element in a plurality of antenna elements (figure 4; 40 in figure 10) comprising a phased array antenna.

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

Art Unit: 2821

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S.

Patent No. 6,856,297 to Durham et al. in view of U.S. Patent No. 4,510,500 to Brune.

With respect to claim 2, Durham fails to teach the inner surface comprising the surface of a dirigible. However, it is well known in the art that the inner surface (or ground plane) of an antenna can comprise the surface of an airplane or dirigible, as is evidenced by Brune (column 6, lines 18-20). Therefore, at the time of the invention, it would have been obvious to one having ordinary skill in the art to take the system of Durham and specifically state that the inner surface be mounted to a dirigible. The motivation for doing so would have been to provide a suitable grounding structure.

9. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S.

Patent No. 6,856,297 to Durham et al. in view of U.S. Patent No. 6,573,876 to Maroko et al.

Art Unit: 2821

With respect to claim 4, Durham fails to teach at least one of the plurality of tubes comprising a coaxial transmission line adapted to transmit signals to and from the at least a first antenna element. However, such a configuration is well known in the art, as is evidenced by Maroko (column 6, lines 30-40). Therefore, at the time of the invention, it would have been obvious to one having ordinary skill in the art to utilize a coaxial transmission feed line in the system of Durham. The motivation for doing so would have been to provide an efficient and compact feed structure capable of fitting into one of the structural support tubes.

10. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,856,297 to Durham et al. in view of U.S. Patent No. 6,512,496 to Alexeff et al.

With respect to claim 15, Durham teaches an apparatus comprising: an inflatable body (306) having an inner surface and an outer surface; at least one antenna element (40) disposed on said outer surface (figure 10), and a plurality of structures (312) connecting through portion of the inner surface and supporting and connecting the inner surface and the outer surface (figure 10). Durham fails to teach the plurality of support structures providing a signal connection for the at least one antenna element. However, such a configuration is well known in the art, as is evidenced by Alexeff (16, 18, and 19 in figure 2). Therefore, at the time of the invention, it would have been obvious to one having ordinary skill in the art to utilize one of the support structures as a means for providing a signal connection to an antenna element. The motivation for doing so would

Art Unit: 2821

have been to create a more compact structure by including the signal feed line in the support structure. Also, providing the signal feed line in the support structure would provide means for protecting the signal feed line.

---

***Response to Arguments***

11. Applicant's arguments filed 27 October 2005 have been fully considered but they are not persuasive.

With respect to independent claims 1 and 15, Applicant argues that none of the baffles 312 in Durham connect through a surface. This phrase is vague and indefinite, as is outlined in the above rejection under 35 USC 112. A phrase such as "passing through" may be more appropriate if Applicant is attempting to claim the support structures connecting a bottom inner surface and a top outer surface while passing through a top inner surface. Additionally, Applicant argues that the feed line / control lines 303 of Durham are indicated as passing through inflatable structures 306 but do not provide support, as is required by claims 1, 3, 5, and 15 of the present application. Examiner agrees with Applicant's assessment. However, claims 1, 3, and 5 do not contain the feed line / structural support limitation which Applicant has alleged. Furthermore, claim 15 is now rejected under 35 USC 103, as is outlined above.



Art Unit: 2821

**Communication Information**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leith A. Al-Nazer whose telephone number is 571-272-1938. The examiner can normally be reached on Monday-Friday, 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on 571-272-1834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LA

*Shih-Chao Chen* 11/7/05  
SHIH-CHAO CHEN  
PRIMARY EXAMINER